

## Claims

What is claimed is:

1. A method for detecting and measuring photoluminescence comprising:
  - a) Light source for excitation
  - b) Sample holder cell with integral light pipes.
  - c) Emission photosensor
2. A method according to claim 1, where the light source for excitation is in the wavelength range from 180nm to 1050nm.
3. A method according to claim 1, wherein the light pipes of the sample holder with integral light pipes are comprised of fiber optic material.
4. A method according to claim 3, wherein the cross-sectional distance of the light entrance of the integral light pipe is in the range from 25 micrometers to 3mm diameter.
5. A method according to claim 1, wherein a lens focuses the light source onto the excitation light pipe.
6. A method according to claim 1, wherein a lens focuses the light emitted from the emission light pipe onto a photosensor.
7. A method according to claim 1, wherein the sample being examined is a solid sample.
8. A method according to claim 1 wherein the sample being examined is in a gaseous state.
9. A method according to claim 1, wherein the sample being examined is in a liquid state.
10. A method according to claim 1, wherein the integral light pipes are 100 micrometers

to 100 meters in length.

11. A method according to claim 1, wherein the body of the sample cell holder is comprised of a material which absorbs the wavelengths being used for either excitation or emission.

12. A method according to claim 1, wherein the light source is a light emitting diode.

13. A method according to claim 1, wherein an optical wavelength filter is between light source and sample holder.

14. A method according to claim 1, wherein an optical wavelength filter is between the emission light pipe and the photosensor.

15. A method according to claim 1, wherein the output of the emission optical fiber is the input of a spectrometer.

16. A method according to claim 1, wherein the light source is a monochromator.

17. A method according to claim 1, wherein only one optical path is a light pipe.